

# Statement of Colonel Douglas Macgregor, PhD, USA (ret.)

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Rayburn House Office Building.

## Army Transformation: Implications for the Future

Current Army transformation programs are not informed by the realities of modern combat or rigorous testing and experimentation. While it is gratifying to see interest in the concepts of rotational readiness and unit cohesion, the disastrous decision to keep American soldiers and units in Iraq for 12 months at a time reinforces my broader reservations about Army transformation. Today, our ground force is apparently exhausted and incapable of securing the stretch of road from downtown Baghdad to Iraq's international airport. Thus, my greatest concern is that the current thrust of Army transformation may actually reduce the Army's fighting power and operational flexibility just as the international environment is placing greater demands on our ground forces.

I will begin by examining two of the fundamental assumptions that are distorting Army transformation. The first of these distortions arises from the belief that information can substitute for armored protection, firepower and off-road mobility.

### ***Assumptions***

*Perfect situational awareness*, the key underlying assumption of the Army's future combat system is an illusion, or perhaps a delusion. *Situational awareness* promises that information about the enemy and his intentions will always be available when it is needed. It also assumes that everyone inside the battlespace will create and exploit information in exactly the same way.

As a result, *situational awareness* demands a greater level of technological capability than is attainable today or in the decades ahead. Most important, there is no evidence that plentiful networked information can replace killing power and inherent survivability, especially in close combat. Timely and useful information is critical, but it cannot substitute for firepower, mobility and armored protection.

During *Operation Iraqi Freedom*, despite unparalleled intelligence assets, most of the fighting on the ground was characterized by the participants as resulting from meeting engagements—battles in which American forces unexpectedly bumped into the enemy.<sup>i</sup> No one should have been surprised. Land warfare is by its very nature chaotic. No technologies or systems exist to prevent such surprises in towns, cities or complex terrain populated by non-combatants and systems on today's drawing boards are unlikely to be effective for many, many years—if ever.

As experience in Iraq demonstrates, another flawed assumption is the belief that strategic speed (deployment) is worth sacrificing protection and firepower. What the Army does after it arrives in a theater of crisis or conflict is much more important than how fast it gets there. Formidable Army ground forces can be organized, equipped, trained, and postured through a joint rotational readiness system to deploy a powerful force in a matter of days and decisively influence events. Getting a light force to the same place a few hours or days sooner does not have the same effect. In fact, it may produce a speedy defeat rather than a decisive victory.

Large quantities of light infantry with nothing more than the weapons they can carry after they dismount to attack from either up-armored HMMWVs or Strykers will sustain heavy losses. Light infantry is not designed to lead penetration attacks into urban areas or against any prepared enemy defense and should never be used in that role.<sup>ii</sup> For light Infantry to succeed, it must be integrated with real mobility, devastating firepower, and armored protection so that it does not become a road-bound paramilitary police force subject to blockade and ambush. If we stay on the current intellectual path, we risk fielding Army units that will end up like the 1<sup>st</sup> Cavalry Division in the Ia Drang valley, calling for air strikes on its own position to avoid annihilation.

The greatest irony is that our current inventory of tanks and armored fighting vehicles actually arrive as quickly as the so-called light force. In the future, Army forces arriving from the air or the sea must include heavy or true medium weight armor – Abrams and Bradleys, or platforms similar to the M8 Armored Gun System and TRACER equipped with hybrid-electric engines and band track, respectively. These platforms and systems are capable of augmenting light infantry and punching through enemy forces with devastating effect. Ultimately, airpower, armor, stand-off attack in the form of UCAVS, mortars and artillery, special operations forces, engineers and infantry all must cooperate in contemporary combat. But armored forces are central to dominating the enemy on the ground with impunity.<sup>iii</sup>

*Now, I will turn briefly to a short discussion of the Army's three main transformation initiatives or programs.* I realize that the members of Congress listen to a host of problems on a daily basis. As a result, I am including some recommendations that may be of use to you as you work closely with the Army's senior leadership in the future.

### ***Stryker Brigades***

The current *stryker brigade combat team* lacks the joint C4ISR, firepower, protection, mobility and organic logistical support to be a full-dimensional warfighting organization and its operational utility will continue to be limited to peace support or paramilitary police operations. A glance at the *stryker* brigade in Northern Iraq provides ample evidence for this statement. The Army's senior leadership wisely decided to keep the *stryker* brigade remote from the scene of the action in Central Iraq where the lethal quality of close combat might inflict serious casualties on it. Frankly, in peace support operations, the block III LAV with its stabilized 25mm chain gun with stand-off engagement capability, though lighter and never designed for close combat, is more lethal and less expensive than the *stryker* carrier.

According to its published doctrine, the *stryker* brigade is designed to move light infantry quickly on primary or secondary roads to a point where the infantry will dismount and conduct combat operations on foot with unstabilized machine guns and, eventually, 105mm guns on *strykers* in support, presuming the mobile gun system can be made to work.

This approach is familiar to anyone who has read tactical manuals for mechanized infantry in the 1960s. In anything but an environment where the enemy's anti-armor, artillery and mining capabilities are slim to nonexistent, these tactics are a prescription for mass slaughter. The lethality of small arms is simply too great.

Lastly, the claim that this formation can deploy into action anywhere in the world on C130s in 96 hours is not supported by empirical evidence.<sup>iv</sup> Given the size, weight and volume of wheeled armored vehicles, the *stryker* brigade is not suitable for strategic air lift and will deploy as a unit via sealift as seen quite recently when the stryker brigade currently serving in Iraq arrived via ship in Kuwait City harbor.

**RECOMMENDATION:** Recommend that Congress curtail the acquisition of more *Strykers* and shift funds into the acquisition of more promising technologies and platforms with close combat capability in urban or complex terrain. Congress should also demand that the Army provide a plan for pooling *Strykers* in support of Army units rotating through peace support missions on the British Army model. A cost-effective alternative to permanently equipping light infantry with *Strykers* would involve the purchase of a limited number of wheeled armored vehicles for use by Army units rotating through routine peace support missions. The British Army uses this approach in Ulster and Cyprus with considerable success.

### ***Modular Brigade Plan***

Let me turn now to the Army's "modular" brigade plan – a plan for smaller, less capable versions of today's formations. The Army's plan to reorganize the Army's ten division force into two battalion brigades with reconnaissance elements, half of whom are mounted in up-armored HMMWVs is dangerous and

## **When is a Brigade no longer viable?**

### ***Loss of Combat Power in reinforced Mechanized Infantry Brigade Combat Teams\****

	1994	1998	2004	Total Change	% Change
<b>M1</b>	67	53	56	-11	-16%
<b>M2/M3</b>	149	121	76	-73	- 48%
<b>Infantry Squads</b>	72	54	36	- 36	- 50%
<b>120mm Mortars</b>	20	14	14	- 6	- 30%
<b>155mm Artillery</b>	24	18	16	- 8	- 33%
<b>Total Troops (reinforced)</b>	4,900	4709	3700	- 1300	- 26%

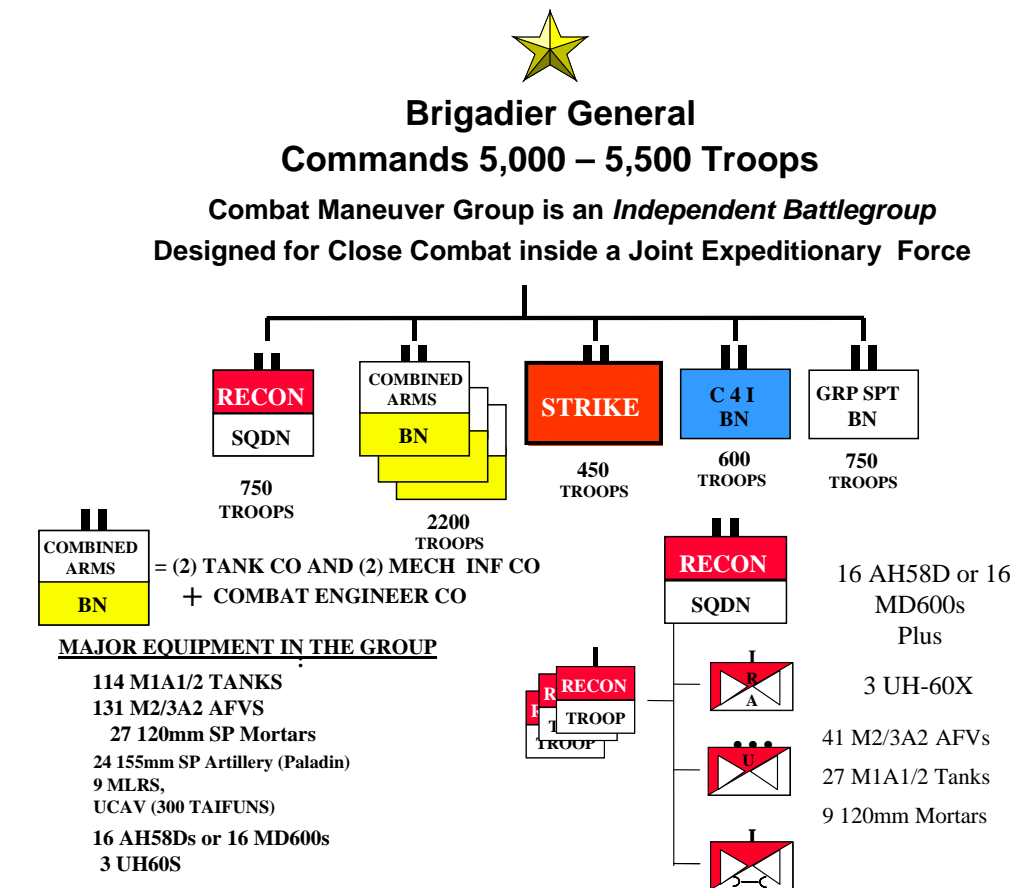
\*Comparison based on heavy mechanized infantry brigade combat team with MI, Signal, Artillery, Cavalry, Air Defense, Military Police attached. During OIF, 3<sup>rd</sup> ID BCTs were reinforced to 5,000 or more troops. In garrison, brigades number roughly 2300.

unsupported by either contemporary battlefield experience or rigorous analysis. Because no thorough plan to fundamentally restructure how the Army supports

fighting forces was developed in parallel, the more numerous two-battalion brigades actually result in a personnel requirement for more support troops. Organizationally, the concept increases dependency on external support from Army division and corps echelons, as well as the larger joint force and defeats the very idea of independence in mobile, dispersed, 360 degree warfare.

In practice, modular means “stand alone” and these new formations will not be capable of independent operations inside a joint expeditionary force. The concept looks like an attempt to equate a near-term requirement to rotate smaller formations through occupation duty in Iraq or Afghanistan with the transformation of the Army into a new warfighting structure, but the two missions are not the same at all. We can do both.

During *Operation Iraqi Freedom*, Army brigades in the 3<sup>rd</sup> Infantry Division had to be significantly reinforced to operate across the Iraq in an environment where units fought in all directions or 360 degrees. This condition resulted in the expansion of brigade combat teams in the 3<sup>rd</sup> Infantry Division from 3,900 troops to 5,000 or more troops. This was necessary to give brigades the fighting power and organic logistical support to operate independently. The formations to which I am referring, combat maneuver groups, are detailed in my two books, *Breaking*



*the Phalanx and Transformation under Fire.*

***What these reinforced brigades lacked, however, were the joint C4ISR plugs, armed helicopters, adequate organic support and depth in the***

***command and staff structures; the very capabilities provided inside the combat maneuver group shown above.*** As the reinforced brigades grew in size and complexity, the commanders and their staffs were required to perform tasks historically coordinated and executed at division and corps levels. These tasks were really too challenging for a colonel with a staff of one lieutenant colonel, two majors and numerous captains and lieutenants to handle on an ad hoc basis. Furthermore, as our commanders in the field repeatedly tell us, today's battalions and brigades are already too small for either sustained combat or post-war security operations. To be independent, combat formations must be able to sustain casualties and keep fighting. Making brigades smaller is not the answer. It just makes us weaker.

**Recommendation:** Congress should suspend the Army's on-going plans to reorganize the ten-division force into new two-battalion brigades. Congress should direct the Army to stand-up the alternative of brigadier-general commanded formations of between 5,000 and 5,500 troops, formations larger than current brigades, but smaller than existing divisions. Congress should mandate the independent examination of this force design in the field, as well as in joint simulation within a prescribed schedule for completion in not more than 12 months.<sup>v</sup>

### ***Future Combat System***

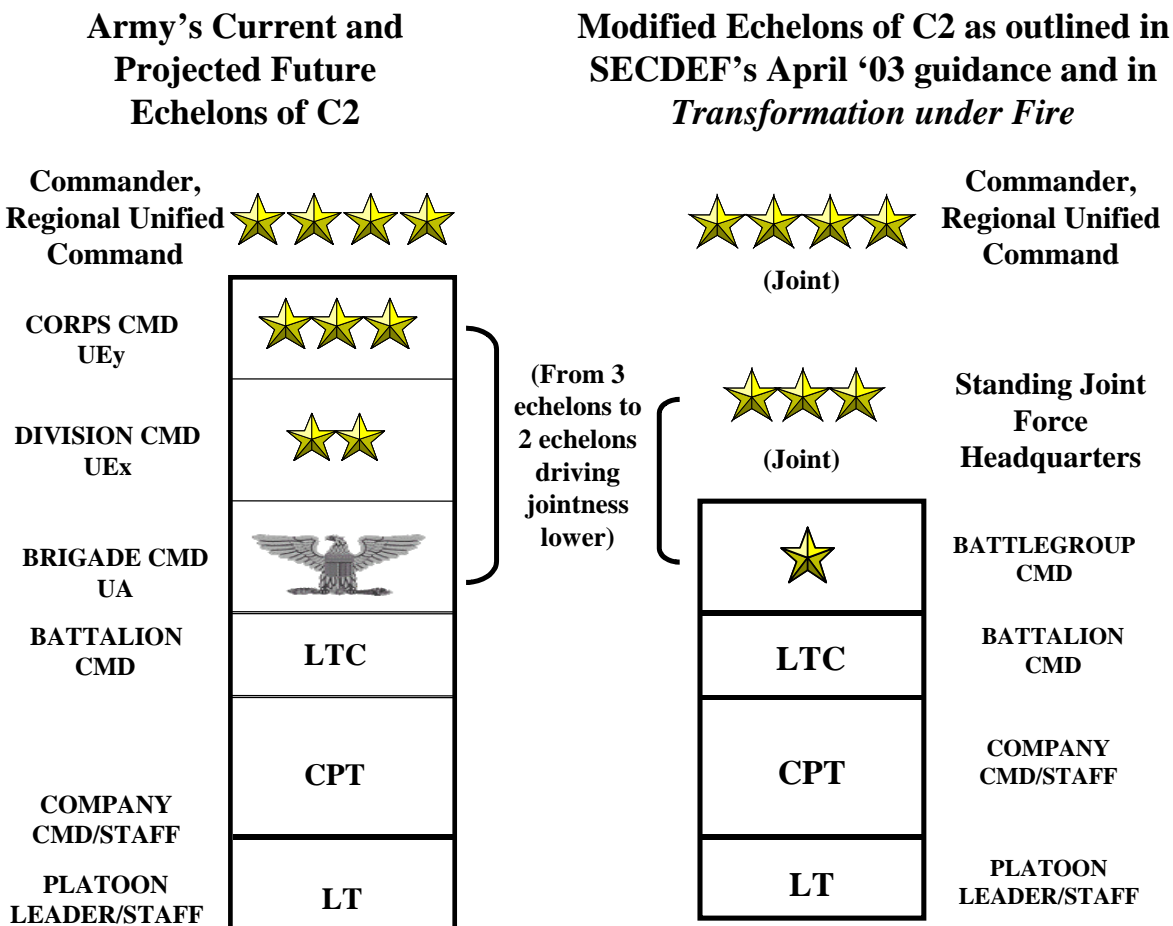
Next in line for discussion is the Army's Future Combat System or FCS. In theory, the FCS will produce a family of systems that will replace virtually the entire mix of Army combat systems, *as they exist today*. FCS, however, is not a single system, but an undefined architecture of force structure, systems, and tactics without any tie to field-testing or examination. The problem is that it is difficult enough to test all the systems in a single platform without requiring multiple platforms to function in a coordinated fashion when the tools to evaluate and test such an array do not presently exist. There is also the unspoken and unsupported assumption that FCS will be cheaper and easier to employ and require fewer soldiers. The catch, however, is that the complex network of unmanned vehicles, and precision fires may reduce personnel, but increase the cost and the complexity of the system to unacceptable levels.<sup>vi</sup>

In terms of doctrine, tactics and organization, the Army views FCS as shaping the battle "out of contact," assuming that perfect situational awareness will turn every actual engagement into an exploitation operation rather than a decisive battle. Of course, unless the network operates perfectly the FCS-equipped force may not be powerful enough to shape the battle extensively, much less win an engagement in contact. More important, the kind of thinking that underpins the FCS also denies the enemy a vote in how he will fight.<sup>vii</sup>

In a period when rapid obsolescence is a high risk, "wildcatting" with new designs, even aggressively courting failure with limited numbers of prototypes, is absolutely necessary. *The Army transformational methodology should be: Look forward to the next technology we can exploit that will help. Field it in limited*

*quantities to the current force. Play with it. Test it. Develop new operational, organizational and doctrinal modes for it. Feed that back into building the next capability and iterate. This means going through a rigorous process of experimentation in order to reach the goal of sustained military superiority.*<sup>viii</sup>

**Recommendation:** Congress should insist on the rapid prototyping of new technologies and platforms as they mature inside new organizations with new mixes of capabilities and require demonstrated performance of the proposed FCS network before more funds are released. In budget terms, scaling back FCS in this way would see FCS funding drop to perhaps a billion dollars a year. This would be enough money for aggressive prototyping and true experimentation, but would allow the army to pay other important bills. The Army should not halt R&D, but it must avoid approaches that are unlikely to succeed.



**We need a plan for more combat power and less, not more overhead!**

## ***W2A New Operational Architecture***

Let me now turn to the Army's proposed, new operational architecture. It appears that this new architecture is not new, but instead arbitrarily derived from the Cold War force structure. The principle result is a unit of action or UA that is actually nothing more than a conventional brigade while the unit of employment or UE equates to a division or corps as shown in the chart above.<sup>ix</sup>

The Unit of Employment discussion (in which the Army conceals the truth that UEx = division and UEy = corps) is at best confusing and at worst misleading.<sup>x</sup> Other than adding still more inadequately staffed brigade headquarters to an already top-heavy force plus many more support troops, the approach amounts to no change in the way the army is commanded, and controlled. In sum, chopping up the existing division into smaller pieces does not change the current warfighting paradigm, reduce or eliminate echelons of unneeded C2, or advance jointness on the operational level where it must be seamless.

**Recommendation:** Congress should demand that the Army explore new force designs that eliminate unnecessary command levels and create viable joint planning and execution capability under a Standing Joint Force Headquarters. Congress should instruct the Secretary of Defense to establish one Standing Joint Force Headquarters under a three-star officer within six months. An independent assessment monitored by this Congress should follow the stand-up of this new command structure.

## ***Army Culture***

Finally, a discussion of Army transformation without a note on Army service culture would miss a key element in the transformation process. Whenever an Army Chief of Staff makes a pronouncement, regardless of whether the pronouncement is based on sound analysis and accurate data, every officer knows that in order to be promoted, he or she must sign on unconditionally for the "party line." In this cultural setting, there is no argument, no debate and no experimentation. One experienced observer of Army experimentation remarked to me that current programs remind him of the Queen's declaration in *Alice in Wonderland*: "First the verdict, then the trial!"<sup>xi</sup> Experimentation is simply designed to demonstrate the rightness of whatever the Chief of Staff or any other four star general said.

This condition was the consequence of the former Army Chief of Staff's statement to the Senate Armed Services Committee in the spring of 2000 that "it was now possible to think of placing the whole Army on wheels." Although the statement had no basis in fact whatsoever, no one in either the Congress or the Senate challenged it so it was never challenged inside the Army.

The current emphasis on the formation of two battalion brigades and an army composed increasingly of light, vulnerable forces has had a similar chilling effect inside the Army even though the evidence from Iraq and Afghanistan does



not support this conclusion. Our soldiers, sergeants, lieutenants and captains are among the best we have ever had. They now have much more combat experience than the generals commanding them, but they are not being listened to. If asked, they will tell congress that when we have armor and firepower, we crush the enemy.

When we match our unsupported light infantry against the Iraqi insurgent under conditions of symmetry, we take losses and the attacking enemy frequently escapes. Ignoring this reality because it contradicts our personal preferences is unacceptable. This sort of bias reinforces a flawed institutional culture that teaches officers to “always give the boss what the boss wants” in a setting where every officer knows that the senior man present is always right. The result is that caution, conservatism, and compliance are the qualities that the Army cultivates, and, during the initial stages of any conflict, these qualities always convey an impression of reasoned judgment.

A sobering example of how seductive these qualities can be was illustrated by the decision in April of this year that we should negotiate a settlement with the insurgents in Fallujah instead of eliminating them. The result is that until crisis and conflict demand decisive action, officers who are willing to risk action—the essence of initiative—are viewed with considerable apprehension.

As long as this culture is allowed to persist, it will also militate against the agility of mind that is so critical to success in both nation-state and sub-national war. It is important to remember, that the balance of force on the ground is much less meaningful in defeating insurgencies. The success of counter-insurgency operations depends much more on the agility of mind than on any other single factor and it's the absence of this agility at high levels that, I suspect, constrains us most today in Iraq.

**Recommendation:** This is a complex issue because people carry culture. Congress should investigate how officers in the Army are advanced to senior rank and what can be done to change the current institutional culture.

## ***Summary***

To briefly sum up, today's senior leaders, dealing as they do with life and death should be as utterly realistic and ruthless in discarding the old for the new, as General Marshall from the time he was elevated from one star to four stars in June 1939. But the historical record makes clear that senior officers are not always realistic. Comfort with the status quo breeds distrust of change. Victory over weak, incompetent adversaries creates the illusion of strength and capability when the reality may be quite different.

Ultimately, new fighting forces with new ideas and new capabilities emerge as the result of political interest and private sector pressure. In the 1930s for instance, the Germans got tanks and the French got forts. In the United States where there was no interest in the Army at all, there was no pressure to

make substantive change and the Army's generals were given tacit leave to romanticize warfare in the form of horse cavalry.

Today, the Army's generals are investing approximately 12 billion dollars in *stryker* initiatives, *when much of that money could be invested more usefully in new fuel-efficient engines inside more survivable and lethal armored platforms for use in urban environments and dispersed mobile warfare. Congress should remember that a pipeline carrying fuel from a refinery in Kuwait to Iraq had to be built to sustain the offensive to Baghdad. This obvious vulnerability demonstrated first during Desert Storm is too dangerous to ignore for another 12 years.*

The soldiers, sergeants, lieutenants and captains fighting this war must have a decisive role in shaping the content of new tactical organizations and equipment. Based on personal conversation with officers ranging in rank from lieutenant to general, this Congress should know that had the officers of the 3<sup>rd</sup> Infantry Division been allowed to do so, the formations that would have emerged in the wake of *Operation Iraqi Freedom* would have resembled those outlined in *Transformation under Fire* and *Breaking the Phalanx*, not the ones they are currently compelled to establish.

The Army must provide the joint force with a diversity of capabilities from theater missile defense to rapidly deployable armored fighting forces. One size does not fit all. In fact, if Iran launched its numerous tactical ballistic and cruise missiles at US targets in the Persian Gulf today, we would be discussing the shortfalls in the Army's theater missile defense capabilities, rather than up-armored HMMWVs and *strykers*.

### **What happens if nothing is done?**

Real change in the international system is outpacing anticipated change. Future, large-scale regional war aimed at American interests now seems no more than 4 to 5 years off with the strategic threat that the United States could be deprived of oil from the Middle East. However, these conditions were not inevitable.

Our friends in Egypt and Jordan along with our British and Italian Allies watched in disbelief through the summer and fall of 2003 as our strategy of indecision on the ground in Iraq produced inaction against known pockets of resistance on the one hand and, on the other, humiliated, killed or incarcerated thousands of Iraqi Arabs without trial, the vast majority of which were not the enemy. The result was: we nurtured the insurgency.

We cannot change the past, so we must confront the present and act decisively or face the possibility that our perceived failure to control Iraq seduces millions of poor, hopeless Arabs from Morocco to the Persian Gulf to join forces with our enemies throughout the Islamic World. Keep in mind that our enemies do not have to defeat us in the conventional sense to achieve their strategic aims now or in the future. They simply have to create conditions similar to those we see today in Iraq on a wider regional level.

We must face facts. Saudi Arabia may be reaching the end of its fragile existence. Iran is in a race to develop and field nuclear warheads for its already

impressive arsenal of theater ballistic missiles and cruise missiles in the hope that it will be positioned to pick up the pieces if we just leave. A nuclear-armed Pakistan could lurch openly into the *Islamist camp* on very short notice.

Back off now, Iraq will ulcerate and regional order will eventually disintegrate.<sup>xii</sup> The oil may well stop flowing from the Persian Gulf and chaos could infect the whole region, producing a global economic disaster. Incidentally, if the oil stops flowing, who will intervene to secure the oil fields and guarantee that oil is exported to the United States, China, India, Japan and the rest of the World? The answer is obvious: *American Soldiers and Marines*.

Facing an enemy willing to take heavy losses to inflict pain on the American body politic through our armed forces demands that our ground forces do much more than win engagements or defeat improvised explosive devices. ***Transformation must result in an Army organized, trained, equipped and led to create a sense of futility in the mind of any current or future enemy by systematically crushing him using every asymmetrical advantage we possess.***

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<sup>i</sup> Source: Colonel Richard Hooker, USA, former special assistant in the office of the Secretary of the Army.

<sup>ii</sup> In the past four months of fighting, the 2nd Battalion of the 4th Marine Regiment has lost 31 killed and 175 wounded, roughly 20% of its 1,000-man fighting strength.

<sup>iii</sup> These points relate to another flawed assumption: The belief that we should optimize our tactical units for the lowest level threat, not the high-end threat. Special Operations Infantry received well-deserved credit for its performance in Iraq, but we must be careful not to assume that conventional infantry will fight similar enemies under the same conditions. When conventional light infantry, Army or Marine, advanced on foot or in wheeled vehicles in Iraq they habitually conducted "movements to defense." Why? When American light infantry is armed with automatic weapons and the enemy has automatic weapons, any resistance is stiff because the two forces are on an equal footing. When this happens, the light infantry turns to the most powerful weapon in its inventory—the radio, because the radio calls in the U.S.A.F., U.S.N., artillery, or armor. Armor may be the first help to arrive, and when it does, the battle ends quickly. Why would a nation with global interests and a population dwarfed by its prospective enemies seek symmetry in combat? Why not instead lead with irresistible strength?

<sup>iv</sup> Megan Scully, "Permanent Waiver Allows Strykers To Be Deployed By C-130s," *Inside the Army*, August 12, 2002, page 1.

<sup>v</sup> There are unintended benefits from this approach. 5,000 – 6,000 man formations can sustain casualties and keep fighting. Another is that eliminating some of the career gates on the Army career ladder also changes career patterns, allowing more time for lieutenant colonels and colonels to become educated and joint; something that the current Army career patterns obstruct. This promotes breadth of experience that is not rewarded in a branch-dominated promotion system that reinforces narrowness of experience. Another is the placement of a brigadier general in command on the tactical level.

<sup>vi</sup> Current Blueforce tracking systems are not interoperable with FBCB2 and neither of these systems is interoperable with FCS. Since FCS-equipped and non-FCS-equipped formations will operate side by side until after 2030, this is a serious problem.

<sup>vii</sup> Clayton M. Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Boston: Harvard Business School Press, 1997), 159. In his landmark book, *The Innovator's Dilemma*, Clayton Christensen explains why the massive Army investment program in Stryker and the undefined FCS may be a mistake. He does so by explaining why the Intel struggle to figure out how to market micro-processing technology was successful when the efforts of other firms were not: "Many of the ideas prevailing at Intel about where the disruptive microprocessor could be used were wrong; fortunately, Intel had not expended all of its resources implementing wrong-headed marketing plans while the right market direction was still unknowable. As a company, Intel survived many false starts in its search for the major market for microprocessors

<sup>viii</sup> Limited numbers of prototypes can be examined under fire before billions of dollars in scarce investment funding are committed to much larger acquisition programs.<sup>viii</sup> In many ways, what I am recommending is no different from the "experiments" undertaken by both the Russians and Germans during the Spanish Civil War of the late 1930s. The Germans in particular benefited from this practice through the use of a limited number of selected aircraft, tanks, and guns that were tested under combat conditions. Some platforms, such as the Junkers Tri-Motor bomber, turned out to be better suited as a transport aircraft. In other cases, there were clear winners such as the 88-mm antiaircraft gun that proved valuable as an antitank weapon. Why is this experience with experimentation important? The Technological pace is quickening again. For instance, over time, unmanned combat aerial vehicles (UCAVs) have the potential to exert a similar influence on the conduct of land warfare. It is increasingly clear that a larger UCAV with more range, loiter time, and payload will eventually be able to fulfill many of the armed reconnaissance and sensor relay functions that armed helicopters are expected to perform.

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However, it takes time to perfect new warfighting systems within new organizations to realize true potential—and therein lies the rub.<sup>viii</sup> Unmanned aerial vehicle (UAV) ability to provide a substantial capacity for fires to the point where they can supplant manned aviation or artillery systems is limited. At the moment, they present a command and control (C<sup>2</sup>) nightmare for fires and can carry only limited munitions load.

<sup>ix</sup> Nothing in the current CSA's plan deviates substantially from this statement: "The Objective Force is organized around a common divisional design, allowing interchangeable full spectrum capability. *Division and Corps level headquarters set the conditions for and integrate all elements of the joint/multinational/interagency force, directing and supporting the operations of its maneuver and fighting units through inter-netted linkages to joint C4ISR and joint effects.*" See Louis Caldera, Secretary of the Army, and General Eric K. Shinseki, Army Chief of Staff, *United States Army Transformation Campaign Plan*, August 1, 2000, 5.

<sup>x</sup> See TRADOC Pamphlet 525-3-90/*Operational and Organizational Plan for Maneuver Unit of Action*, July 22, 2002.

<sup>xi</sup> Suggested to the author by Lieutenant Colonel (P) H.R. McMaster, US Army.

<sup>xii</sup> Patrick J. McDonnell and Suhail Ahmed, "Resentment is Festering in Little Falloujahs," *Los Angeles Times*, July 13, 2004, page 1.